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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/595,580	06/15/2000	Edward R. Dougherty	4239-54279	9988

7590 04/11/2002
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EXAMINER

CLOW, LORI A

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 04/11/2002

/1

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/595,580

Applicant(s)

DOUGHERTY ET AL.

Examiner

Lori A. Clow, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 11 February 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-54 and 61-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 02 November 2001 is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. The IDS, paper No. 8, filed December 7, 2001 is acknowledged and the Chen et al. reference will be considered.
2. The drawing correction is approved.

Applicant's arguments filed January 17, 2002 have been fully considered but they are not persuasive. Claims 1-54 and 61-65 remain rejected under 35 USC 103 (a). The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in the prior Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The argument for claim 1, which would incorporate new claims 64 and 65, is unpersuasive. Although the claims have been amended, it still reads on the quantification and prediction of cellular constituents in a network model as taught by Stoughton et al., which includes gene expression, as stated in column 6, lines 8-12.

The argument that Stoughton et al. do not teach "showing relative relatedness" when describing goodness of fit and a network model is not persuasive. Furthermore, Stoughton et al. go on to say in column 10, lines 45-52:

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“If the new P-value is better than the initial P-value, the refined hypothesis can be used as the base for further refinements in a search for models with even better P-values. The goal of such a refinement is **convergence** of the network models towards one that is a useful representation of aspects of the **biological system, or the biological subsystem**, under study.”

It is clear that this is, indeed, for use in biological systems.

4. The argument that Chapman et al. fail to teach “relative relatedness” is not persuasive. For instance, in column 2, lines 52-55 and 60-63, “a method of predicting activity of molecules **with respect** to a chemical function based on **known** activities” implies measuring relatedness.

5. The argument that Barnhill et al. do not teach relative relatedness is not persuasive. The very suggestion that comparisons are made between more than one group, shows that relative relatedness is being established.

6. In regards to dependent claims 2-28 and new claims 62 and 63 Stoughton et al. teach the following:

“...comparisons of changes between two states of the inputs to a biological network, what is experimentally significant are the relative values of the cellular constituents produced by the two states and what is significant in an output class are comparisons of the values generated by different states of the inputs (column 8, lines 64-67 and column 9, lines 1-3).”

Thus implying relatedness within a network and relatedness based upon chains of interaction among various mechanisms.

7. In regards to claims 29-32, simply because applicant has run a text search for the phrase “coefficient of determination” and failed to find it in Stoughton et al., is not a basis for argument.

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It is clear that Stoughton et al., as described, utilize generated coefficients to determine predictive sets in order to compare expression levels (column 15, lines 33-50 and column 18, lines 1-64).

9. In regards to claims 50-53 insertion of the “nonbinary” limitation does not preclude neural networks, since that is the very definition of neural network.

10. In regards to claim 61 Stoughton et al. teach the generation of solutions in a branching structure. The branching always starts with the lowest-cost state and is sorted by increasing number of variables. Therefore, a ranking is inherent.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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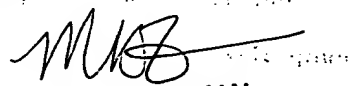
Inquiries

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242, or (703) 308-4028.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (703) 306-5439. The examiner can normally be reached on Monday-Friday from 10 A.M. to 6 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Woodward, Ph.D., can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Patent Analyst, Bill Phillips, whose telephone number is (703) 305-3419, or to the Technical Center receptionist whose telephone number is (703) 308-0196.


MARY K. ZEMAN
PRIMARY EXAMINER
AW 1631

April 9, 2002

Lori A. Clow, Ph.D.

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